

10/814,748

=> FILE REG

FILE 'REGISTRY' ENTERED AT 11:25:59 ON 27 JUL 2006

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STRUCTURE FILE UPDATES: 25 JUL 2006 HIGHEST RN 896142-63-5

DICTIONARY FILE UPDATES: 25 JUL 2006 HIGHEST RN 896142-63-5

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

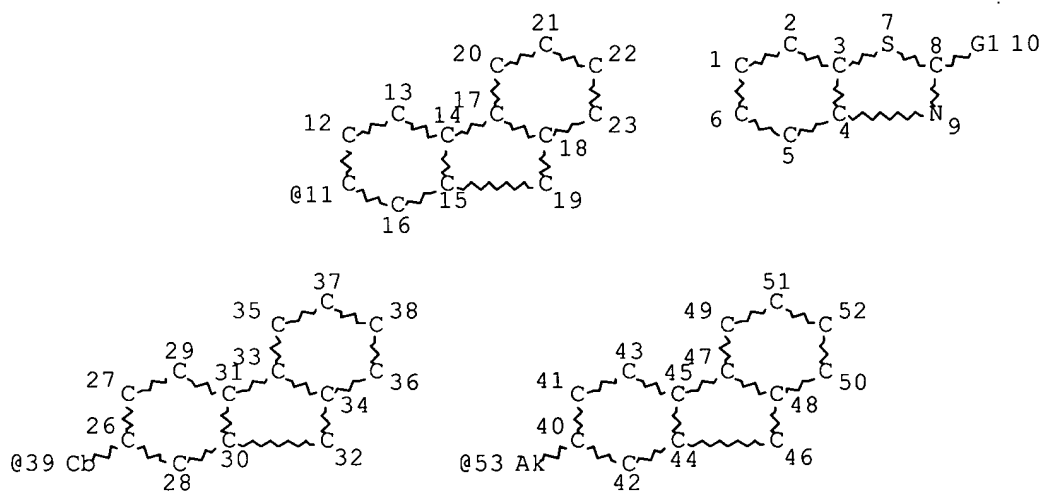
Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=> D QUE L37

L35 STR



VAR G1=11/39/53

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

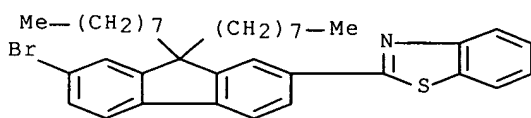
NUMBER OF NODES IS 51

STEREO ATTRIBUTES: NONE

L37 94 SEA FILE=REGISTRY SSS FUL L35

=> D L43

L43 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN
RN 866006-42-0 REGISTRY
ED Entered STN: 25 Oct 2005
CN Benzothiazole, 2-(7-bromo-9,9-dioctyl-9H-fluoren-2-yl)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 2-Bromo-7-benzothiazolyl-9,9-dioctylfluorene
FS 3D CONCORD
MF C36 H44 Br N S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> FILE HCAPLU

FILE 'HCAPLUS' ENTERED AT 11:27:09 ON 27 JUL 2006
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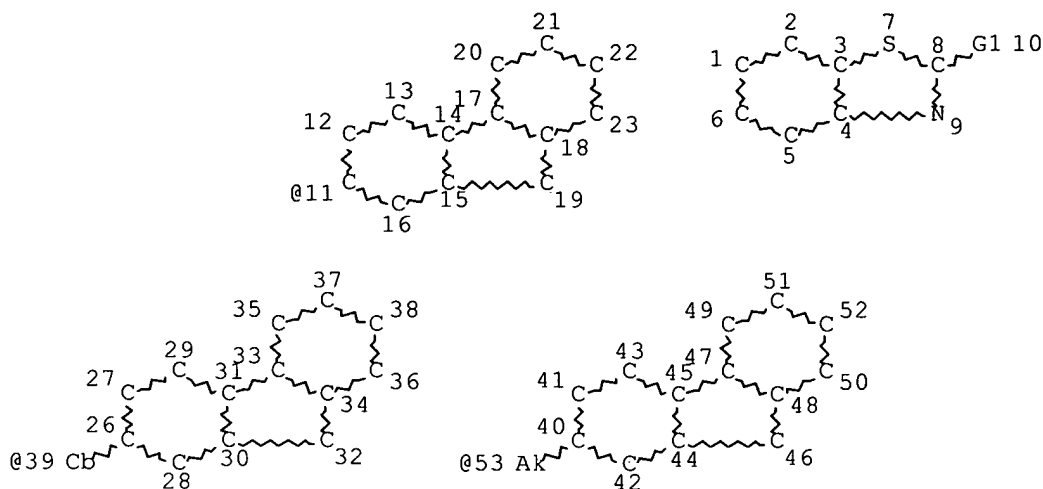
FILE COVERS 1907 - 27 Jul 2006 VOL 145 ISS 5
FILE LAST UPDATED: 26 Jul 2006 (20060726/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> D QUE L45

L35 STR



VAR G1=11/39/53
 NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 51

STEREO ATTRIBUTES: NONE
 L37 94 SEA FILE=REGISTRY SSS FUL L35
 L38 72 SEA FILE=HCAPLUS ABB=ON L37
 L40 8 SEA FILE=HCAPLUS ABB=ON L38 AND (ELECTROACT? OR EL OR ?LUMIN?
 OR LIGHT?(2A)?EMIT?)
 L42 9 SEA FILE=REGISTRY ABB=ON L37 AND BR/ELS
 L43 1 SEA FILE=REGISTRY ABB=ON L42 AND C36H44BRNS/MF
 L44 1 SEA FILE=HCAPLUS ABB=ON L43
 L45 8 SEA FILE=HCAPLUS ABB=ON L40 OR L44

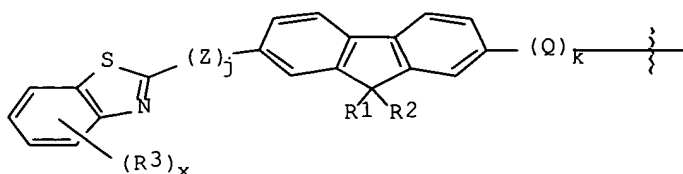
=> D L45 BIB ABS IND HITSTR 1-8

L45 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 2005:1078302 HCAPLUS Full-text
 DN 143:347633
 TI **Electroactive** polymer, device made therefrom and method
 IN Litz, Kyle Erik; Shiang, Joseph John; Heller, Christian Maria Anton
 PA USA
 SO U.S. Pat. Appl. Publ., 14 pp.
 CODEN: USXXCO
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	US 2005222352	A1	20051006	US 2004-814748	20040401
	JP 2005320512	A2	20051117	JP 2005-101051	20050331
	CN 1680456	A	20051012	CN 2005-10067640	20050401
	EP 1589049	A2	20051026	EP 2005-252070	20050401
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				

IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK,
BA, HR, IS, YU

PRAI US 2004-814748 A 20040401
OS MARPAT 143:347633
GI



I

AB Disclosed are polymers comprising 2-(7-benzothiazolyl-9,9-disubstituted fluorene) structural units of the formula I (e.g., poly(2-vinyl-7-benzothiazolyl-9,9-dioctylfluorene)); wherein R1 and R2 are each independently an alkyl group, an aralkyl group, an aryl group, or an -Si(R)3 group wherein R is an alkyl group; R3 is selected from the group consisting of an electron-donating substituent and an electron-withdrawing substituent; x has the value of from zero up to the number of hydrogens available for substitution on the aromatic ring; Z and Q are each independently a group which is in conjugation with both the fluorene group and the benzothiazole group; and the parameters j and k each independently have the value of 0-2. **Electroactive** devices comprising the polymers, methods for preparing the polymers, and monomers for preparing the polymers are also disclosed. The **electroactive** polymer is useful for an **electroluminescent** device, an LED, an OLED, a photovoltaic device, a photoconductor, a photodetector, or in a chemical or biochem. sensor.

IC ICM C08F026-06

INCL 526259000; 526286000

CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 74, 76

ST polyvinyl benzothiazolyl dioctylfluorene **electroactive** polymer device

IT Biosensors
Sensors

(production of **electroactive** polymer containing side-chain benzothiazolyl disubstituted fluorene for chemical or biochem. sensors)

IT **Electroluminescent** devices
(production of **electroactive** polymer containing side-chain benzothiazolyl disubstituted fluorene for **electroluminescent** devices)

IT Photoconductors
(production of **electroactive** polymer containing side-chain benzothiazolyl disubstituted fluorene for photoconductors)

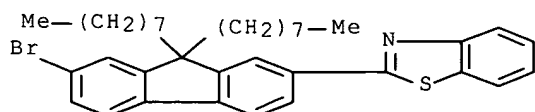
IT Optical detectors
(production of **electroactive** polymer containing side-chain benzothiazolyl disubstituted fluorene for photodetectors)

IT Photoelectric devices
(production of **electroactive** polymer containing side-chain benzothiazolyl disubstituted fluorene for photovoltaic devices)

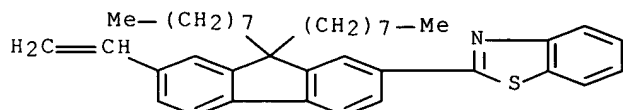
IT 155090-83-8, Baytron TP-CH 8000

RL: DEV (Device component use); USES (Uses)

- (conductive polymer; production of **electroactive** polymer containing side-chain benzothiazolyl disubstituted fluorene for **electroluminescent** devices)
- IT 534600-14-1P, 2-Bromo-7-formyl-9,9-dioctylfluorene **866006-42-0P**, 2-Bromo-7-benzothiazolyl-9,9-dioctylfluorene
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (intermediate; production of **electroactive** polymer containing side-chain benzothiazolyl disubstituted fluorene for **electroactive** devices)
- IT **866006-43-1P**, 2-Vinyl-7-benzothiazolyl-9,9-dioctylfluorene
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (monomer; production of **electroactive** polymer containing side-chain benzothiazolyl disubstituted fluorene for **electroactive** devices)
- IT 78-67-1, AIBN 94-36-0, uses
 RL: CAT (Catalyst use); USES (Uses)
 (polymerization catalyst; production of **electroactive** polymer containing side-chain benzothiazolyl disubstituted fluorene for **electroactive** devices)
- IT 51364-51-3, Tris(dibenzylideneacetone)dipalladium
 RL: CAT (Catalyst use); USES (Uses)
 (production of **electroactive** polymer containing side-chain benzothiazolyl disubstituted fluorene for **electroactive** devices)
- IT **866006-44-2P**, 2-Vinyl-7-benzothiazolyl-9,9-dioctylfluorene homopolymer **866006-45-3P**, Styrene-2-vinyl-7-benzothiazolyl-9,9-dioctylfluorene copolymer **866006-46-4P**, Methyl methacrylate-2-vinyl-7-benzothiazolyl-9,9-dioctylfluorene copolymer **866006-47-5P**, Methyl methacrylate-styrene-2-vinyl-7-benzothiazolyl-9,9-dioctylfluorene copolymer
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (production of **electroactive** polymer containing side-chain benzothiazolyl disubstituted fluorene for **electroactive** devices)
- IT 137-07-5, 2-Aminothiophenol 7486-35-3, Tributyl(vinyl)stannane 198964-46-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (starting material; production of **electroactive** polymer containing side-chain benzothiazolyl disubstituted fluorene for **electroactive** devices)
- IT **866006-42-0P**, 2-Bromo-7-benzothiazolyl-9,9-dioctylfluorene
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (intermediate; production of **electroactive** polymer containing side-chain benzothiazolyl disubstituted fluorene for **electroactive** devices)
- RN 866006-42-0 HCAPLUS
 CN Benzothiazole, 2-(7-bromo-9,9-dioctyl-9H-fluoren-2-yl)- (9CI) (CA INDEX NAME)



IT **866006-43-1P**, 2-Vinyl-7-benzothiazolyl-9,9-dioctylfluorene
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
 (Reactant or reagent)
 (monomer; production of **electroactive** polymer containing side-chain
 benzothiazolyl disubstituted fluorene for **electroactive**
 devices)
 RN 866006-43-1 HCAPLUS
 CN Benzothiazole, 2-(7-ethenyl-9,9-dioctyl-9H-fluoren-2-yl)- (9CI) (CA INDEX
 NAME)



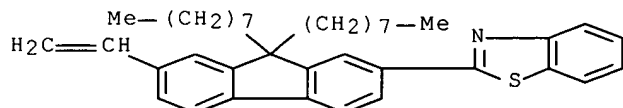
IT **866006-44-2P**, 2-Vinyl-7-benzothiazolyl-9,9-dioctylfluorene
 homopolymer **866006-45-3P**, Styrene-2-vinyl-7-benzothiazolyl-9,9-
 dioctylfluorene copolymer **866006-46-4P**, Methyl
 methacrylate-2-vinyl-7-benzothiazolyl-9,9-dioctylfluorene copolymer
866006-47-5P, Methyl methacrylate-styrene-2-vinyl-7-benzothiazolyl-
 9,9-dioctylfluorene copolymer
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP
 (Properties); TEM (Technical or engineered material use); PREP
 (Preparation); USES (Uses)
 (production of **electroactive** polymer containing side-chain
 benzothiazolyl disubstituted fluorene for **electroactive**
 devices)

RN 866006-44-2 HCAPLUS
 CN Benzothiazole, 2-(7-ethenyl-9,9-dioctyl-9H-fluoren-2-yl)-, homopolymer
 (9CI) (CA INDEX NAME)

CM 1

CRN 866006-43-1

CMF C38 H47 N S

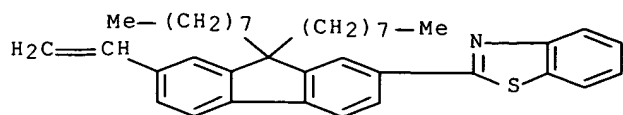


RN 866006-45-3 HCAPLUS
 CN Benzothiazole, 2-(7-ethenyl-9,9-dioctyl-9H-fluoren-2-yl)-, polymer with
 ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 866006-43-1

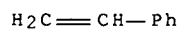
CMF C38 H47 N S



CM 2

CRN 100-42-5

CMF C8 H8



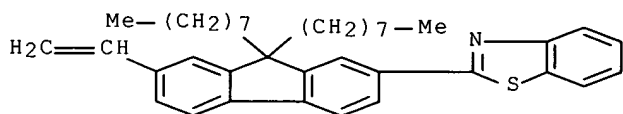
RN 866006-46-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with
2-(7-ethenyl-9,9-dioctyl-9H-fluoren-2-yl)benzothiazole (9CI) (CA INDEX
NAME)

CM 1

CRN 866006-43-1

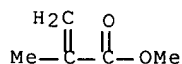
CMF C38 H47 N S



CM 2

CRN 80-62-6

CMF C5 H8 O2



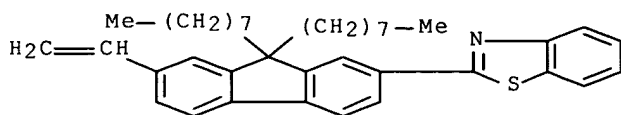
RN 866006-47-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with ethenylbenzene and
2-(7-ethenyl-9,9-dioctyl-9H-fluoren-2-yl)benzothiazole (9CI) (CA INDEX
NAME)

CM 1

CRN 866006-43-1

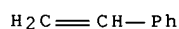
CMF C38 H47 N S



CM 2

CRN 100-42-5

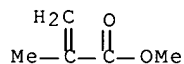
CMF C8 H8



CM 3

CRN 80-62-6

CMF C5 H8 O2



L45 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2005:301410 HCAPLUS [Full-text](#)

DN 143:16332

TI Photosensitization of Singlet Oxygen via Two-Photon-Excited Fluorescence Resonance Energy Transfer in a Water-Soluble Dendrimer

AU Oar, Michael A.; Serin, Jason M.; Dichtel, William R.; Frechet, Jean M. J.; Ohulchansky, Tymish Y.; Prasad, Paras N.

CS Department of Chemistry, University of California, Berkeley, CA, 94720-1460, USA

SO Chemistry of Materials (2005), 17(9), 2267-2275

CODEN: CMATEX; ISSN: 0897-4756

PB American Chemical Society

DT Journal

LA English

AB A novel approach for the sensitization of singlet oxygen has been developed which utilizes indirect excitation of the photosensitizer by two-photon-excited fluorescence resonance energy transfer (FRET) from sep. chromophores assembled into a dendrimer. This approach effectively enhances the two-photon excitation efficiency of a known photosensitizer, without the sort of chromophore modifications that could lead to loss of photosensitization and other desirable photophys. properties. Photosensitization of singlet oxygen via excitation wavelengths transmissive to human body tissue (750-1000 nm) could alleviate the depth limitations of photodynamic therapy. The dendritic photosensitizer was prepared by grafting two-photon-absorbing chromophores and water-solubilizing moieties to a known multivalent porphyrin photosensitizer. Efficient FRET (>99% quenching of donor emission) between the peripheral donor two-photon-absorbing chromophores and the central acceptor photosensitizer at the core of the dendrimer was demonstrated under two-photon excitation

conditions in an aqueous medium. Photosensitized production of singlet oxygen was monitored through chemical trapping and oxygen **luminescence**. Both methods independently demonstrated enhanced two-photon-induced singlet oxygen generation upon incorporation of two-photon-absorbing chromophores capable of efficient FRET to the photosensitizer.

CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST singlet oxygen generation two photon excitation porphyrin dendrimer photosensitization; photosensitizer porphyrin dendrimer two photon absorption ethylene glycol ether

IT Polyethers, properties

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)

(dendrimers; dendritic water soluble porphyrin-core photosensitizer incorporating two-photon absorbing tri(ethylene glycol)monomethyl ether chromophores for singlet oxygen generation)

IT Fluorescence

Luminescence

Photoinduced energy transfer

Two-photon absorption

(dendritic water soluble porphyrin-core photosensitizer incorporating two-photon absorbing tri(ethylene glycol)monomethyl ether chromophores for singlet oxygen generation)

IT Photodynamic therapy

(dendritic water soluble porphyrin-core photosensitizer incorporating two-photon absorbing tri(ethylene glycol)monomethyl ether chromophores for singlet oxygen generation in relation to)

IT Dendritic polymers

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)

(polyethers; dendritic water soluble porphyrin-core photosensitizer incorporating two-photon absorbing tri(ethylene glycol)monomethyl ether chromophores for singlet oxygen generation)

IT Photoexcitation

(two-photon; dendritic water soluble porphyrin-core photosensitizer incorporating two-photon absorbing tri(ethylene glycol)monomethyl ether chromophores for singlet oxygen generation)

IT **852628-94-5P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(alkylation and)

IT 62921-74-8, Tri(ethyleneglycol) monomethyl ether tosylate

RL: RCT (Reactant); RACT (Reactant or reagent)

(alkylation of Me 3,4,5-trihydroxybenzoate)

IT 99-24-1, Methyl 3,4,5-trihydroxybenzoate

RL: RCT (Reactant); RACT (Reactant or reagent)

(alkylation with tri(ethyleneglycol) monomethyl ether tosylate)

IT 852628-98-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(core; synthesis of dendritic water soluble porphyrin-core photosensitizer incorporating two-photon absorbing chromophores for singlet oxygen generation)

IT **852628-99-0P**

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)

(dendritic; dendritic water soluble porphyrin-core photosensitizer incorporating two-photon absorbing tri(ethylene glycol)monomethyl ether

chromophores for singlet oxygen generation)

IT 852629-02-8P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (model compound; dendritic; dendritic water soluble porphyrin-core
 photosensitizer for singlet oxygen generation)

IT 852628-96-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (reaction with succinic anhydride)

IT 852628-92-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (reduction and chlorination)

IT 852628-95-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (reduction with LiAlH₄)

IT 7782-44-7P, Oxygen, preparation
 RL: PNU (Preparation, unclassified); PREP (Preparation)
 (singlet excited; dendritic water soluble porphyrin-core photosensitizer
 incorporating two-photon absorbing tri(ethylene glycol)monomethyl ether
 chromophores for singlet oxygen generation)

IT 852628-93-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (synthesis of dendritic porphyrin-core water soluble photosensitizer
 incorporating two-photon absorbing chromophores for singlet oxygen
 generation)

IT 852628-97-8P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (synthesis of dendritic water soluble porphyrin-core photosensitizer
 incorporating two-photon absorbing chromophores for singlet oxygen
 generation)

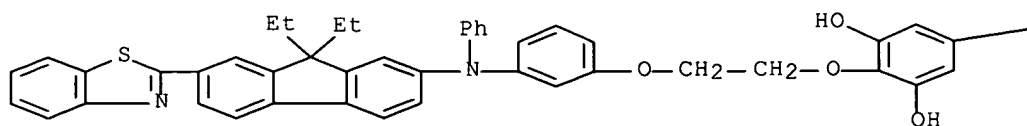
IT 852629-00-6P 852629-01-7P 852629-03-9P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (synthesis of dendritic water soluble porphyrin-core photosensitizer model
 compound)

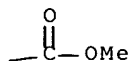
IT 852628-94-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (alkylation and)

RN 852628-94-5 HCAPLUS

CN Benzoic acid, 4-[2-[3-[[7-(2-benzothiazolyl)-9,9-diethyl-9H-fluoren-2-yl]phenylamino]phenoxy]ethoxy]-3,5-dihydroxy-, methyl ester (9CI) (CA
 INDEX NAME)

PAGE 1-A





IT 852628-99-0P

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)

(dendritic; dendritic water soluble porphyrin-core photosensitizer incorporating two-photon absorbing tri(ethylene glycol)monomethyl ether chromophores for singlet oxygen generation)

RN 852628-99-0 HCAPLUS

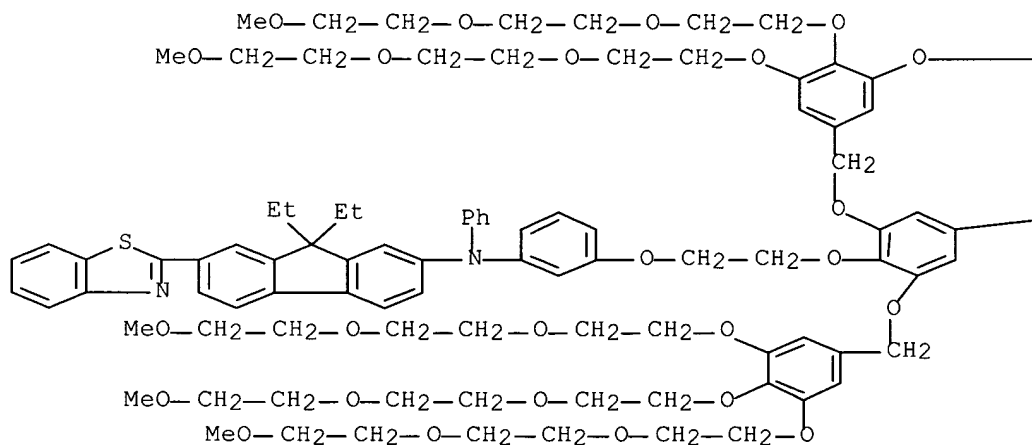
CN Benzenemethanol, 4-[2-[3-[[7-(2-benzothiazolyl)-9,9-diethyl-9H-fluoren-2-yl]phenylamino]phenoxy]ethoxy]-3,5-bis[[3,4,5-tris[2-[2-(2-methoxyethoxy)ethoxy]ethoxy]phenyl]methoxy]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

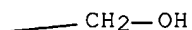
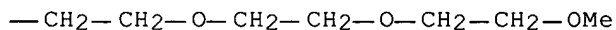
CRN 852628-97-8

CMF C101 H136 N2 O29 S

PAGE 1-A



PAGE 1-B

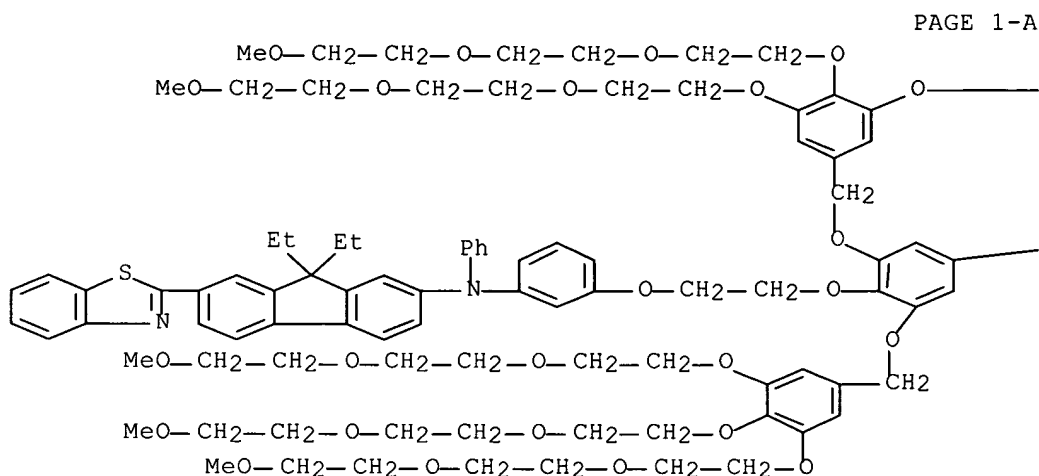


TT 852628-96-7P

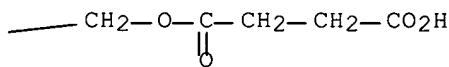
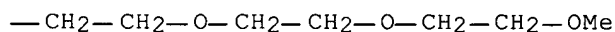
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(reaction with succinic anhydride)

RN 852628-96-7 HCAPLUS

CN Butanedioic acid, mono[[4-[2-[3-[[7-(2-benzothiazolyl)-9,9-diethyl-9H-fluoren-2-yl]phenylamino]phenoxy]ethoxy]-3,5-bis[[3,4,5-tris[2-[2-(2-methoxyethoxy)ethoxy]ethoxy]phenyl]methoxy]phenyl]methyl] ester (9CI) (CA INDEX NAME)



PAGE 1-B

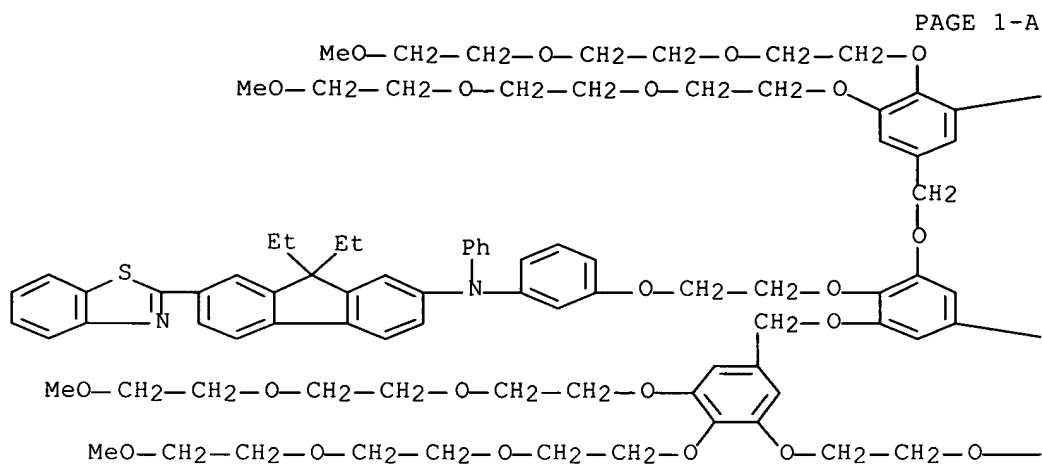


IT 852628-95-6P

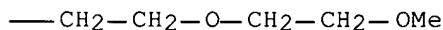
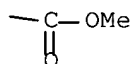
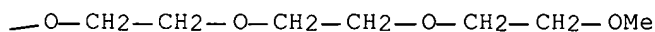
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(reduction with LiAlH₄)

RN 852628-95-6 HCAPLUS

CN Benzoic acid, 4-[2-[3-[7-(2-benzothiazolyl)-9,9-diethyl-9H-fluoren-2-yl]phenylamino]phenoxy]ethoxy]-3,5-bis[[3,4,5-tris[2-[2-(2-methoxyethoxy)ethoxy]ethoxy]phenyl]methoxy]-, methyl ester (9CI) (CA INDEX NAME)



PAGE 1-B



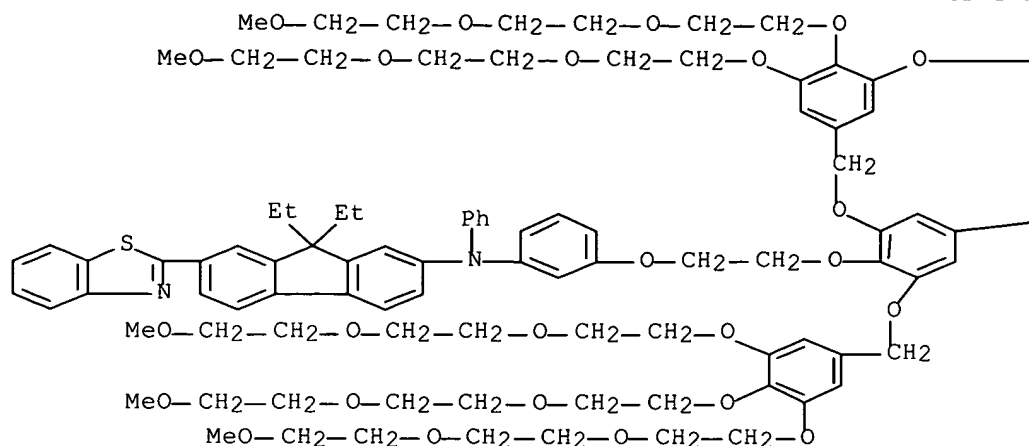
IT **852628-97-8P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(synthesis of dendritic water soluble porphyrin-core photosensitizer incorporating two-photon absorbing chromophores for singlet oxygen generation)

RN 852628-97-8 HCAPLUS

CN Benzenemethanol, 4-[2-[3-[[7-(2-benzothiazolyl)-9,9-diethyl-9H-fluoren-2-yl]phenylamino]phenoxy]ethoxy]-3,5-bis[[3,4,5-tris[2-[2-(2-methoxyethoxy)ethoxy]ethoxy]phenyl]methoxy]- (9CI) (CA INDEX NAME)



PAGE 1-B

$$-\text{CH}_2-\text{CH}_2-\text{O}-\text{CH}_2-\text{CH}_2-\text{O}-\text{CH}_2-\text{CH}_2-\text{OMe}$$
$$\text{---CH}_2\text{---OH}$$

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:1019575 HCAPLUS Full-text
DN 142:13480
TI Oxazole-, thiazole-, and imidazole-fused phenanthroline molecules in
organic **light-emitting** devices
IN Chen, Jian Ping; Suzuki, Koichi
PA Canon Kabushiki Kaisha, Japan
SO U.S. Pat. Appl. Publ., 14 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004234809	A1	20041125	US 2003-441164	20030520
	JP 2004349245	A2	20041209	JP 2004-133912	20040428
PRAI	US 2003-441164	A	20030520		
OS	MARPAT 142:13480				

AB Organic **light-emitting** devices (OLEDs) are described in which an thiazole-, or imidazole-fused phenanthroline mol. is used in an emissive layer, a charge transport layer, and/or a charge blocking layer.

IC . ICM H05B033-12

INCL 428690000; 428917000; 313504000; 313506000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 22, 25, 76

ST oxazole thiazole imidazole fused phenanthroline deriv
electroluminescent device OLED

IT **Electroluminescent** devices
(OLED; oxazole-, thiazole-, and imidazole-fused phenanthroline mols. in organic **light-emitting** devices)

IT 7429-90-5, **Aluminum**, uses 102352-82-9
RL: DEV (Device component use); USES (Uses)
(cathode layer; oxazole-, thiazole-, and imidazole-fused phenanthroline mols. in organic **light-emitting** devices)

IT 796888-86-3P
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(electron-transporting/hole-blocking layer; oxazole-, thiazole-, and imidazole-fused phenanthroline mols. in organic **light-emitting** devices)

IT 796888-87-4P
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(electron-transporting/hole-blocking layer; oxazole-, thiazole-, and imidazole-fused phenanthroline mols. in organic **light-emitting** devices)

IT 2085-33-8, **Aluminum** tris(8-hydroxyquinolinato)
RL: DEV (Device component use); USES (Uses)
(emissive layer; oxazole-, thiazole-, and imidazole-fused phenanthroline mols. in organic **light-emitting** devices)

IT 123847-85-8, NPD
RL: DEV (Device component use); USES (Uses)
(hole-transporting layer; oxazole-, thiazole-, and imidazole-fused phenanthroline mols. in organic **light-emitting** devices)

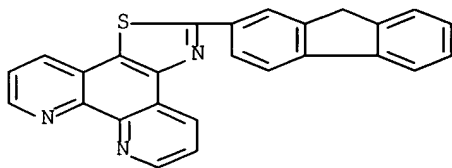
IT 243650-59-1D, derivs. 796888-85-2D, derivs. 796888-86-3D, derivs.
796888-88-5 796888-89-6 796888-90-9 796888-91-0
796888-92-1D, derivs. 796888-93-2 796888-94-3D, derivs. 796888-95-4
796888-96-5D, derivs. **796888-97-6** 796888-98-7D, derivs.
796888-99-8 796889-00-4D, derivs. **796889-01-5**
796889-02-6D, derivs. 796889-03-7 796889-04-8D, derivs. 796889-05-9
796889-06-0D, derivs. 796889-07-1 796889-08-2D, derivs. 796889-09-3
796889-10-6D, derivs. 796889-11-7 796889-12-8D, derivs.
796889-13-9 796889-14-0D, derivs. **796889-15-1**
796889-16-2D, derivs. 796889-17-3 796889-18-4D, derivs. 796889-19-5
796889-20-8D, derivs. 796889-21-9 796889-22-0D, derivs. 796889-23-1
796889-24-2D, derivs. **796889-25-3** 796889-26-4D, derivs.
796889-27-5 796889-28-6D, derivs. **796889-29-7**
796889-30-0D, derivs. 796889-31-1 796889-32-2D, derivs. 796889-33-3
796889-34-4D, derivs. 796889-35-5 796889-36-6D, derivs. 796889-37-7
796889-38-8D, derivs. 796889-39-9 796889-40-2D, derivs.
796889-41-3 796889-42-4D, derivs. 796889-43-5 796889-44-6D,
derivs. 796889-45-7 796889-47-9D, derivs. 796889-49-1
796889-51-5D, derivs. **796889-53-7** 796889-55-9D, derivs.
796889-56-0 796889-57-1D, derivs. **796889-58-2**
796889-59-3D, derivs. 796889-61-7 796889-62-8D, derivs. 796889-63-9
796889-63-9D, derivs. 796889-64-0 796889-64-0D, derivs. 796889-65-1
796889-66-2D, derivs. 796889-67-3 796889-68-4D, derivs.
RL: DEV (Device component use); USES (Uses)
(oxazole-, thiazole-, and imidazole-fused phenanthroline mols. in organic **light-emitting** devices)

IT 623-27-8, 1,4-Benzenedicarboxaldehyde 30084-90-3, 2-Fluorene-2-carboxaldehyde 573720-87-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (oxazole-, thiazole-, and imidazole-fused phenanthroline mols. in organic light-emitting devices)

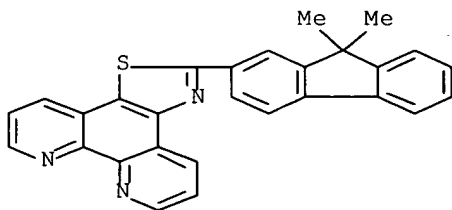
IT 796888-85-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (oxazole-, thiazole-, and imidazole-fused phenanthroline mols. in organic light-emitting devices)

IT 796888-88-5 796888-89-6 796888-97-6
 796888-99-8 796889-01-5 796889-13-9
 796889-15-1 796889-25-3 796889-27-5
 796889-29-7 796889-41-3 796889-53-7
 796889-56-0 796889-58-2
 RL: DEV (Device component use); USES (Uses)
 (oxazole-, thiazole-, and imidazole-fused phenanthroline mols. in organic light-emitting devices)

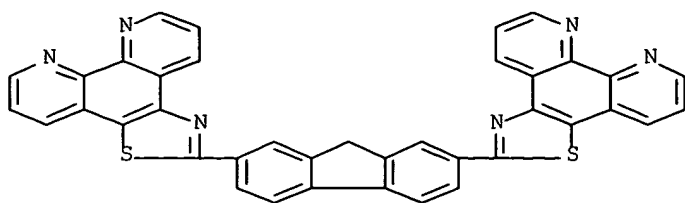
RN 796888-88-5 HCAPLUS
 CN Thiazolo[4,5-f][1,10]phenanthroline, 2-(9H-fluorene-2-yl)- (9CI) (CA INDEX NAME)



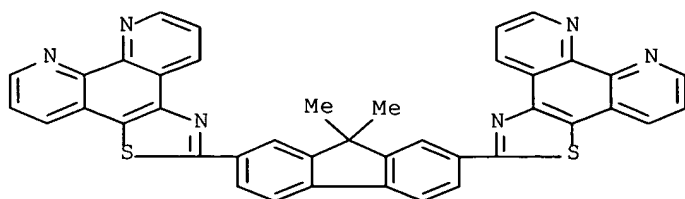
RN 796888-89-6 HCAPLUS
 CN Thiazolo[4,5-f][1,10]phenanthroline, 2-(9,9-dimethyl-9H-fluorene-2-yl)- (9CI) (CA INDEX NAME)



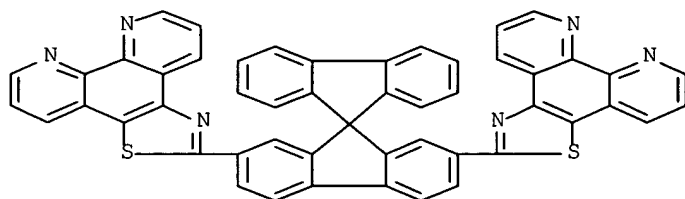
RN 796888-97-6 HCAPLUS
 CN Thiazolo[4,5-f][1,10]phenanthroline, 2,2'-(9H-fluorene-2,7-diyl)bis- (9CI) (CA INDEX NAME)



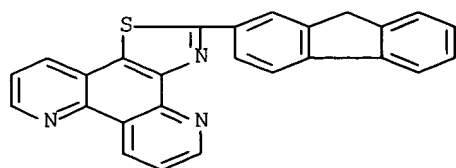
RN 796888-99-8 HCAPLUS
 CN Thiazolo[4,5-f][1,10]phenanthroline, 2,2'-(9,9-dimethyl-9H-fluorene-2,7-diyl)bis- (9CI) (CA INDEX NAME)



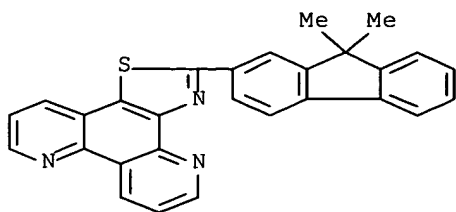
RN 796889-01-5 HCAPLUS
 CN Thiazolo[4,5-f][1,10]phenanthroline, 2,2'-(9,9'-spirobi[9H-fluorene]-2,7-diyl)bis- (9CI) (CA INDEX NAME)



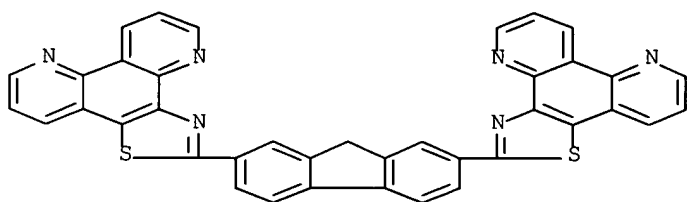
RN 796889-13-9 HCAPLUS
 CN Thiazolo[5,4-f][1,7]phenanthroline, 2-(9H-fluoren-2-yl)- (9CI) (CA INDEX NAME)



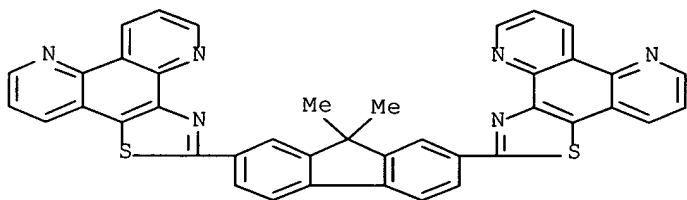
RN 796889-15-1 HCAPLUS
 CN Thiazolo[5,4-f][1,7]phenanthroline, 2-(9,9-dimethyl-9H-fluoren-2-yl)- (9CI) (CA INDEX NAME)



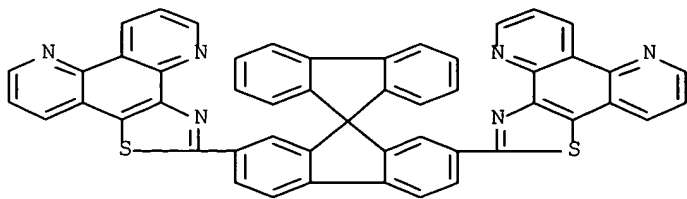
RN 796889-25-3 HCAPLUS
 CN Thiazolo[5,4-f][1,7]phenanthroline, 2,2'-(9H-fluorene-2,7-diyl)bis- (9CI)
 (CA INDEX NAME)



RN 796889-27-5 HCAPLUS
 CN Thiazolo[5,4-f][1,7]phenanthroline, 2,2'-(9,9-dimethyl-9H-fluorene-2,7-diyl)bis- (9CI) (CA INDEX NAME)

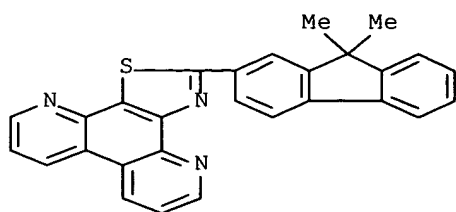


RN 796889-29-7 HCAPLUS
 CN Thiazolo[5,4-f][1,7]phenanthroline, 2,2'-(9,9'-spirobi[9H-fluorene]-2,7-diyl)bis- (9CI) (CA INDEX NAME)



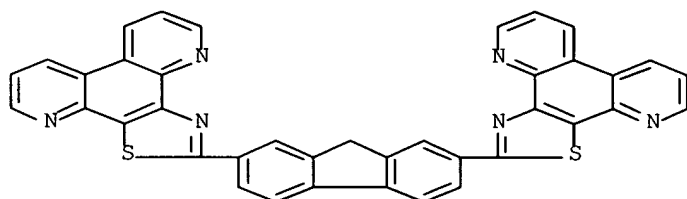
RN 796889-41-3 HCAPLUS
 CN Thiazolo[4,5-f][4,7]phenanthroline, 2-(9,9-dimethyl-9H-fluoren-2-yl)-

(9CI) (CA INDEX NAME)



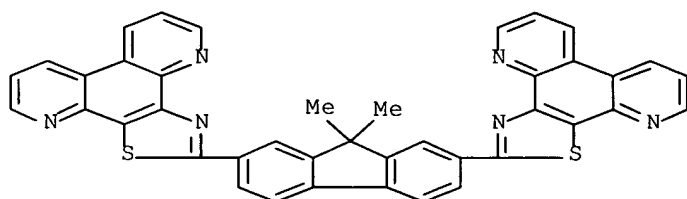
RN 796889-53-7 HCAPLUS

CN Thiazolo[4,5-f][4,7]phenanthroline, 2,2'-(9H-fluorene-2,7-diyl)bis- (9CI)
(CA INDEX NAME)



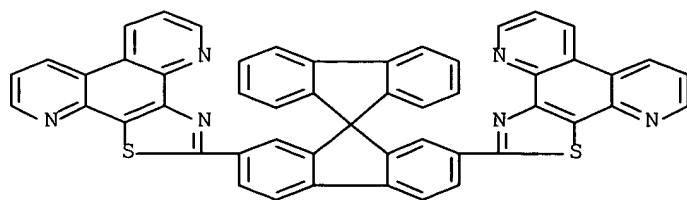
RN 796889-56-0 HCAPLUS

CN Thiazolo[4,5-f][4,7]phenanthroline, 2,2'-(9,9-dimethyl-9H-fluorene-2,7-diyl)bis- (9CI) (CA INDEX NAME)



RN 796889-58-2 HCAPLUS

CN Thiazolo[4,5-f][4,7]phenanthroline, 2,2'-(9,9'-spirobi[9H-fluorene]-2,7-diyl)bis- (9CI) (CA INDEX NAME)



L45 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 2004:300925 HCAPLUS Full-text
 DN 141:30986
 TI Singlet Oxygen Generation via Two-Photon Excited FRET
 AU Dichtel, William R.; Serin, Jason M.; Edder, Carine; Frechet, Jean M. J.;
 Matuszewski, Michael; Tan, Loon-Seng; Ohulchanskyy, Tymish Y.; Prasad,
 Paras N.
 CS Department of Chemistry, University of California, Berkeley, CA,
 94720-1460, USA
 SO Journal of the American Chemical Society (2004), 126(17), 5380-5381
 CODEN: JACSAT; ISSN: 0002-7863
 PB American Chemical Society
 DT Journal
 LA English
 AB A modified porphyrin mol. is studied that has enhanced two-photon absorption
 (TPA) cross-section. The mol. consists of a dendritic array of eight donor
 chromophores capable of two-photon absorption covalently attached to a central
 porphyrin acceptor. Steady-state fluorescence measurements demonstrated that
 the donor chromophores transfer excited-state energy to the porphyrin with 97%
 efficiency. Two-photon excitation of the donor chromophores at 780 nm
 resulted in a dramatic increase in porphyrin fluorescence relative to a
 porphyrin model compound. Efficient singlet oxygen generation was observed from
 oxygen-saturated solns. of this porphyrin compound under two-photon excitation
 conditions. Electronic supplementary information (ESI) is available at
<http://pubs.acs.org> and contains details and chemical characterization data of
 the porphyrin compound
 CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)
 ST singlet oxygen generation porphyrin photosensitizer two photon excitation
 IT Intramolecular energy transfer
 (electronic; singlet oxygen generation via two-photon excitation of
 sensitizer compound comprising porphyrin acceptor and dendritic array of
 eight donor chromophores)
 IT Electronic energy transfer
 Photoinduced energy transfer
 (intramol.; singlet oxygen generation via two-photon excitation of
 sensitizer compound comprising porphyrin acceptor and dendritic array of
 eight donor chromophores)
 IT Fluorescence
 Fluorescence resonance energy transfer
 Luminescence
 Two-photon absorption
 (singlet oxygen generation via two-photon excitation of sensitizer
 compound comprising porphyrin acceptor and dendritic array of eight donor
 chromophores)
 IT Photodynamic therapy
 Photosensitizers, pharmaceutical
 (singlet oxygen generation via two-photon excitation of sensitizer
 compound comprising porphyrin acceptor and dendritic array of eight donor
 chromophores in relation to)
 IT Electronic energy transfer
 (triplet-state, triplet energy transfer; singlet oxygen generation via
 two-photon excitation of sensitizer compound comprising porphyrin
 acceptor and dendritic array of eight donor chromophores)
 IT Photoexcitation
 (two-photon; singlet oxygen generation via two-photon excitation of
 sensitizer compound comprising porphyrin acceptor and dendritic array of
 eight donor chromophores)
 IT 74684-34-7

RL: PRP (Properties)
(model acceptor chromophore; singlet oxygen generation via two-photon
excitation of sensitizer compound comprising porphyrin acceptor and
dendritic array of eight donor chromophores)

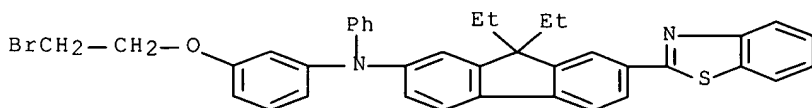
IT 700365-35-1
RL: PRP (Properties)
(model donor chromophore AF-343; singlet oxygen generation via
two-photon excitation of sensitizer compound comprising porphyrin
acceptor and dendritic array of eight donor chromophores)

IT 7782-44-7P, Oxygen, preparation
RL: PNU (Preparation, unclassified); PREP (Preparation)
(singlet excited; singlet oxygen generation via two-photon excitation
of sensitizer compound comprising porphyrin acceptor and dendritic array
of eight donor chromophores)

IT 700813-87-2P
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP
(Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC
(Process)
(singlet oxygen generation via two-photon excitation of sensitizer
compound comprising porphyrin acceptor and dendritic array of eight donor
chromophores)

IT 700365-35-1
RL: PRP (Properties)
(model donor chromophore AF-343; singlet oxygen generation via
two-photon excitation of sensitizer compound comprising porphyrin
acceptor and dendritic array of eight donor chromophores)

RN 700365-35-1 HCAPLUS
CN 9H-Fluoren-2-amine, 7-(2-benzothiazolyl)-N-[3-(2-bromoethoxy)phenyl]-9,9-
diethyl-N-phenyl- (9CI) (CA INDEX NAME)

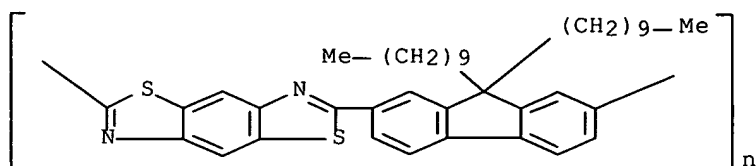


RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2003:381184 HCAPLUS Full-text
DN 138:354537
TI **Luminescence** and multiphoton absorption of a new class of
bisbenzothiazole polymer
AU Belfield, Kevin D.; Morales, Alma; Yavuz, Ozlem; Stegeman, George I.;
Chapela, Victor M.; Percino, Judith
CS Department of Chemistry and School of Optics, University of Central
Florida, Orlando, FL, 32816, USA
SO Polymeric Materials Science and Engineering (2001), 84, 660-661
CODEN: PMSEDG; ISSN: 0743-0515
PB American Chemical Society
DT Journal
LA English
AB The ease of synthesis, high two-photon absorptivity, and fluorescence
properties makes fluorenyl bisbenzothiazole polymer a good candidate for
optical power limiting and two-photon fluorescence imaging. Thus, 2,7-
dicyano-9,9-didecylfluorene (0.0014 mol, preparation given), 2,5-diamino-1,4-
benzenedithiol dihydrochloride (0.0014 mol), and polyphosphoric acid (3.75 g)

were stirred, flushed with N (g), heated to 45° under vacuum, stirred for 16 h, the temperature gradually raised to 60° for 4 h, and 100° for 2 h, resulting in the reaction mixture turning orange, cooled to room temperature and 1.83 g P2O5 was added, the solution was then slowly heated to 100° and stirred for 16 h (reddish-orange solution), followed by heating to 130° for another 16 h, then at 145° for 6 h, cooled in water, neutralized with NH4OH (20%) and washed with water in a soxhlet extractor for 32 h to give polymer which was dried and again washed with hexane, yielding a yellow solid (0.49 g, yield 53%).

- CC 36-5 (Physical Properties of Synthetic High Polymers)
Section cross-reference(s): 35
- ST fluorenyl bisbenzothiazole polymer fluorescence
- IT Polybenzothiazoles
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(alkylfluorenyl group-containing; **luminescence** and multiphoton
absorption of fluorenyl bisbenzothiazole polymer)
- IT Multiphoton absorption
(and fluorescence of fluorenyl bisbenzothiazole polymer)
- IT Fluorescence
(and multiphoton absorption of fluorenyl bisbenzothiazole polymer)
- IT 86-73-7, Fluorene
RL: RCT (Reactant); RACT (Reactant or reagent)
(iodination; **luminescence** and multiphoton absorption of
fluorenyl bisbenzothiazole polymer)
- IT 518357-47-6P **518357-48-7P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(**luminescence** and multiphoton absorption of fluorenyl
bisbenzothiazole polymer)
- IT 544-92-3, Copper cyanide (CuCN)
RL: RCT (Reactant); RACT (Reactant or reagent)
(**luminescence** and multiphoton absorption of fluorenyl
bisbenzothiazole polymer)
- IT 16218-28-3P, 2,7-Diiodofluorene
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(**luminescence** and multiphoton absorption of fluorenyl
bisbenzothiazole polymer)
- IT 518357-46-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and polymerization; **luminescence** and multiphoton absorption
of fluorenyl bisbenzothiazole polymer)
- IT 249296-20-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(reaction with copper cyanide; **luminescence** and multiphoton
absorption of fluorenyl bisbenzothiazole polymer)
- IT 112-29-8, 1-Bromodecane
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with diiodofluorene; **luminescence** and multiphoton
absorption of fluorenyl bisbenzothiazole polymer)
- IT **518357-48-7P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(**luminescence** and multiphoton absorption of fluorenyl
bisbenzothiazole polymer)
- RN 518357-48-7 HCAPLUS
- CN Poly[benzo[1,2-d:4,5-d']bisthiazole-2,6-diyl(9,9-didecyl-9H-fluorene-2,7-
diyl)] (9CI) (CA INDEX NAME)



RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:849756 HCAPLUS Full-text

DN 137:360139

TI Double-spiro organic compounds and **electroluminescent** devices

IN Kim, Kong-Kyeum; Son, Se-Hwan; Yoon, Seok-Hee; Bae, Jae-Soon; Lee, Youn-Gu; Im, Sung-Gap; Kim, Ji-Eun; Lee, Jae-Chol

PA LG Chem, Ltd., S. Korea

SO PCT Int. Appl., 117 pp.

CODEN: PIXXD2

DT Patent

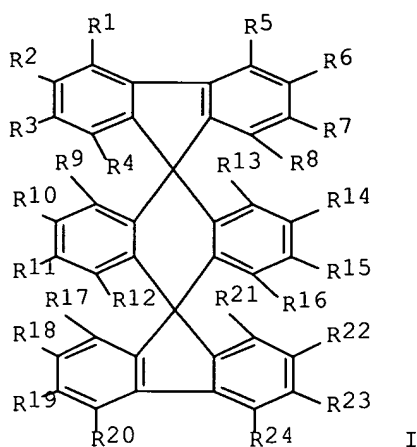
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002088274	A1	20021107	WO 2002-KR458	20020318
	W: CN, JP				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
	KR 2002083614	A	20021104	KR 2001-23038	20010427
	KR 2002083615	A	20021104	KR 2001-23039	20010427
	US 2004023060	A1	20040205	US 2002-99781	20020314
	US 6998487	B2	20060214		
	EP 1294823	A1	20030326	EP 2002-705589	20020318
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
	JP 2004529937	T2	20040930	JP 2002-585559	20020318
	EP 1645552	A1	20060412	EP 2005-20697	20020318
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
	TW 591096	B	20040611	TW 2002-91105844	20020326
	US 2004170863	A1	20040902	US 2003-718083	20031119
	US 6984462	B2	20060110		
PRAI	KR 2001-23038	A	20010427		
	KR 2001-23039	A	20010427		
	US 2002-99781	A3	20020314		
	EP 2002-705589	A3	20020318		
	WO 2002-KR458	W	20020318		

OS MARPAT 137:360139

GI



AB Double-spiro organic compds. are claimed which are described by the general formula I (R1-24 = independently selected substituents not all of which are H). **Light-emitting**, hole-transporting, and electron-transporting materials comprising the compds. are also described. **Electroluminescent** materials comprising the compds, including deposited films, methods for depositing the materials, and organic **electroluminescent** devices employing the materials, and method for fabricating the devices, are also described.

IC ICM C09K011-06
ICS C07C013-72

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 24, 76

ST double spiro org compd **electroluminescent** device

IT Semiconductor device fabrication
(double-spiro organic compds. and **electroluminescent** devices using them)

IT Spiro compounds
RL: DEV (Device component use); USES (Uses)
(double-spiro organic compds. and **electroluminescent** devices using them)

IT **Luminescent** substances
(**electroluminescent**; double-spiro organic compds. and **electroluminescent** devices using them)

IT Vapor deposition process
(of double-spiro organic compds.)

IT **Electroluminescent** devices
(organic; double-spiro organic compds. and **electroluminescent** devices using them)

IT 159-56-8 474687-62-2D, derivs. 474687-68-8D, derivs. 474687-72-4
474687-74-6D, derivs. 474687-77-9D, derivs. 474687-79-1D, derivs.
474687-89-3 474687-90-6 474687-93-9 474687-95-1 474687-97-3
474688-01-2 474688-04-5 474688-09-0 474688-10-3 474688-11-4
474688-12-5 474688-13-6 474688-14-7 474688-15-8 474688-16-9
474688-17-0 474688-18-1 474688-19-2 474688-20-5 474688-21-6
474688-22-7 474688-23-8 474688-25-0 474688-26-1 474688-27-2
474688-28-3 474688-29-4 474688-30-7 474688-31-8 474688-32-9
474688-33-0 474688-34-1 474688-35-2 474688-36-3 474688-37-4
474688-38-5 474688-39-6 474688-40-9 474688-41-0 474688-42-1
474688-43-2 **474688-44-3** 474688-45-4 **474688-46-5**
474688-47-6 474688-48-7 474688-50-1 474688-52-3 474688-54-5
474688-59-0 474688-61-4 474688-62-5 474688-63-6 474688-64-7

474688-65-8 474688-66-9 474688-67-0 474688-68-1 474688-69-2
 RL: DEV (Device component use); USES (Uses)
 (double-spiro organic compds. and **electroluminescent** devices
 using them)

IT 474687-62-2P 474687-68-8P 474687-70-2P 474687-74-6P 474687-77-9P
 474687-79-1P 474687-82-6P 474687-85-9P 474687-87-1P 474687-88-2P
 RL: DEV (Device component use); RCT (Reactant); SPN (Synthetic
 preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (double-spiro organic compds. and **electroluminescent** devices
 using them)

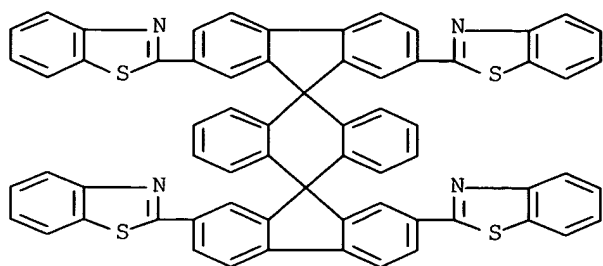
IT 474687-91-7P 474687-92-8P 474687-94-0P 474687-96-2P 474687-98-4P
 474687-99-5P 474688-00-1P 474688-02-3P 474688-03-4P 474688-05-6P
 474688-06-7P 474688-07-8P 474688-08-9P 474688-24-9P 474688-49-8P
 474688-51-2P 474688-53-4P 474688-55-6P 474688-56-7P 474688-57-8P
 474688-58-9P 474688-60-3P
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP
 (Preparation); USES (Uses)
 (double-spiro organic compds. and **electroluminescent** devices
 using them)

IT 84-54-8, 2-Methylanthraquinone 86-74-8, Carbazole 90-30-2 98-80-6,
 Phenylboronic acid 121-43-7, Trimethylborate 121-44-8, Triethylamine,
 reactions 122-39-4, Diphenylamine, reactions 128-08-5,
 N-Bromosuccinimide 128-37-0, 2,6-Di-tert-butyl-4-methylphenol, reactions
 504-63-2, 1,3-Propanediol 523-27-3, 9,10-Dibromoanthracene 530-48-3,
 1,1-Diphenylethylene 531-91-9, Diphenylbenzidine 572-83-8,
 2-Bromoanthraquinone 580-13-2, 2-Bromonaphthalene 626-39-1,
 1,3,5-Tribromobenzene 633-70-5, 2,6-Dibromoanthraquinone 1564-64-3,
 9-Bromoanthracene 2052-07-5, 2-Bromobiphenyl 7726-95-6, Bromine,
 reactions 17088-21-0, 1-Vinylpyrene 17919-34-5 23674-20-6,
 9-Bromo-10-phenylanthracene 25069-74-3 28611-39-4,
 4-(Dimethylamino)phenylboronic acid 201731-79-5, 2-Bromo-9,10-
 diphenylanthracene 201802-67-7 288105-04-4 334658-75-2 400607-16-1
 474688-72-7 474688-73-8 474688-74-9 474688-77-2 474688-80-7
 474688-81-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (double-spiro organic compds. and **electroluminescent** devices
 using them)

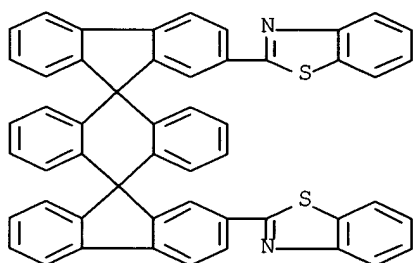
IT 6363-86-6P 13249-58-6P 22072-53-3P 85637-31-6P 103068-20-8P
 474688-70-5P 474688-71-6P 474688-75-0P 474688-76-1P 474688-78-3P
 474688-79-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (double-spiro organic compds. and **electroluminescent** devices
 using them)

IT **474688-44-3 474688-46-5**
 RL: DEV (Device component use); USES (Uses)
 (double-spiro organic compds. and **electroluminescent** devices
 using them)

RN 474688-44-3 HCAPLUS
 CN Benzothiazole, 2,2',2'',2'''-dispiro[9H-fluorene-9,9'(10'H)-anthracene-
 10',9''-[9H]fluorene]-2,2'',7,7'''-tetrayltetrakis- (9CI) (CA INDEX NAME)



RN 474688-46-5 HCAPLUS
 CN Benzothiazole, 2,2'-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene]-2,2''-diylbis- (9CI) (CA INDEX NAME)



RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 2002:673937 HCAPLUS Full-text
 DN 137:359662
 TI Experiment and analysis of two-photon absorption spectroscopy using a white-light continuum probe
 AU Negres, Raluca A.; Hales, Joel M.; Kobayakov, Andrey; Hagan, David J.; Van Stryland, Eric W.
 CS School of Optics/CREOL, University of Central Florida, Orlando, FL, 32816-2700, USA
 SO IEEE Journal of Quantum Electronics (2002), 38(9), 1205-1216
 CODEN: IEJQA7; ISSN: 0018-9197
 PB Institute of Electrical and Electronics Engineers
 DT Journal
 LA English
 AB The authors present an exptl. technique along with the method of data anal. to give nondegenerate 2-photon absorption (2PA) spectra. The authors use a femtosecond pump pulse and a white-light continuum (WLC) probe to rapidly generate the 2PA spectra of a variety of materials. To analyze data taken with this method, the spectral and temporal characteristics of the WLC must be known, along with the linear dispersion of the sample. This allows determination of the temporal walk-off of the pump and probe pulses as a function of frequency caused by group-velocity mismatch. Data correction can then be performed to obtain the nonlinear losses. The authors derive an anal. formula for the normalized nonlinear transmittance that is valid under quite general exptl. parameters. The authors verify this on ZnS and use it for the determination of 2PA spectra of some organic compds. in solution The authors

also compare some of the data on orgs. with 2-photon fluorescence data and find good agreement.

CC 73-4 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST two photon absorption spectroscopy white light continuum probe; fluorescence two photon org mol; zinc sulfide two photon visible spectra refractive index; fluorene deriv two photon visible spectra refractive index; Kerr effect two photon absorption spectroscopy

IT Two-photon absorption
(spectroscopy; two-photon absorption spectroscopy using white-light continuum probe in relation to two-photon fluorescence)

IT Kerr effect (electrooptical)
Optical absorption
Optical transmission
Refractive index
(two-photon absorption spectroscopy using white-light continuum probe in relation to electrooptical Kerr effect)

IT Organic compounds, properties
RL: PRP (Properties)
(two-photon absorption spectroscopy using white-light continuum probe in relation to two-photon fluorescence)

IT Laser induced fluorescence
Luminescence
UV and visible spectra
(two-photon; two-photon absorption spectroscopy using white-light continuum probe in relation to two-photon fluorescence)

IT 60676-86-0, Fused silica
RL: DEV (Device component use); USES (Uses)
(two-photon absorption spectroscopy using white-light continuum probe in relation to electrooptical Kerr effect)

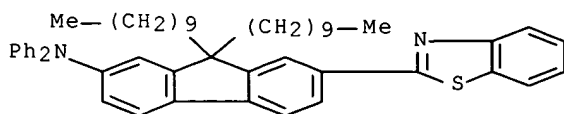
IT 110-54-3, Hexane, properties 262607-32-9
RL: PRP (Properties)
(two-photon absorption spectroscopy using white-light continuum probe in relation to electrooptical Kerr effect)

IT 1314-98-3, Zinc sulfide (ZnS), properties
RL: PRP (Properties)
(two-photon absorption spectroscopy using white-light continuum probe in relation to two-photon fluorescence)

IT 262607-32-9
RL: PRP (Properties)
(two-photon absorption spectroscopy using white-light continuum probe in relation to electrooptical Kerr effect)

RN 262607-32-9 HCAPLUS

CN 9H-Fluoren-2-amine, 7-(2-benzothiazolyl)-9,9-didecyl-N,N-diphenyl- (9CI)
(CA INDEX NAME)



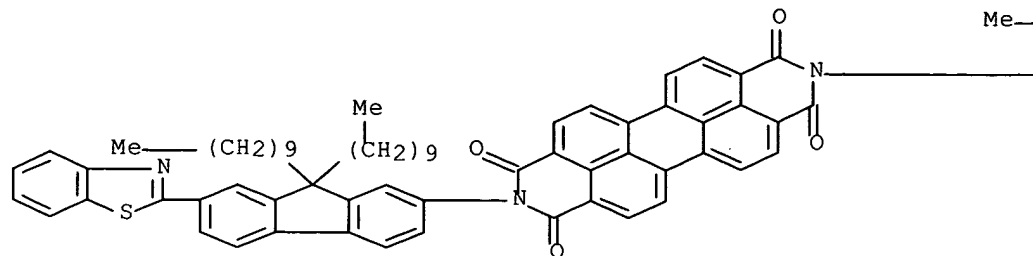
RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:312491 HCAPLUS Full-text
DN 133:90722

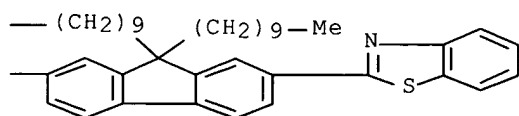
TI Synthesis and characterization of a perylene-based **luminescent**
 organic glass
 AU Belfield, Kevin D.; Schafer, Katherine J.; Alexander, Max D. Jr.
 CS Department of Chemistry, University of Central Florida, Orlando, FL,
 32816-2366, USA
 SO Chemistry of Materials (2000), 12(5), 1184-1186
 CODEN: CMATEX; ISSN: 0897-4756
 PB American Chemical Society
 DT Journal
 LA English
 AB The red dye N,N'-bis[7-(2-benzothiazolyl)-9,9-didecyl-2-
 fluorenyl]perylene-tetracarboxylic diimide (I) was prepared from
 perylene-tetracarboxylic dianhydride and 7-(2-benzothiazolyl)-9,9-didecyl-2-
 fluorenylamine. **Photoluminescence** studies of I showed that it underwent
 intramol. energy transfer from the fluorenyl moiety to the perylene ring
 system upon excitation with long-wavelength UV light. I should provide broad
 band 2-photon absorption in the ranges of 600-770 and 820-1090 nm. I had no
 clear melting or crystallization transitions, while showing .apprx.4% weight
 loss at 380°. Good solubility was noted in common organic solvents.
 CC 41-5 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic
 Sensitizers)
 Section cross-reference(s): 73
 ST dye fluorescent perylene based prepn
 IT Two-photon absorption
 (by perylene-based **luminescent** organic glass)
 IT Intramolecular energy transfer
 (in characterization of perylene-based **luminescent** organic
 glass)
 IT Fluorescence
 Fluorescent dyes
 UV and visible spectra
 (preparation and characterization of perylene-based **luminescent**
 organic glass)
 IT 280768-22-1P
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
 engineered material use); PREP (Preparation); USES (Uses)
 (preparation and characterization of perylene-based **luminescent**
 organic glass)
 IT 128-69-8 262607-30-7, 7-(2-Benzothiazolyl)-9,9-didecyl-2-
 fluorenylamine
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (starting material; preparation and characterization of perylene-based
luminescent organic glass)
 IT 280768-22-1P
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
 engineered material use); PREP (Preparation); USES (Uses)
 (preparation and characterization of perylene-based **luminescent**
 organic glass)
 RN 280768-22-1 HCAPLUS
 CN Anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-1,3,8,10(2H,9H)-tetrone,
 2,9-bis[7-(2-benzothiazolyl)-9,9-didecyl-9H-fluoren-2-yl]- (9CI) (CA
 INDEX NAME)

PAGE 1-A

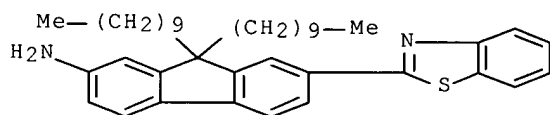
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PAGE 1-B



IT 262607-30-7, 7-(2-Benzothiazolyl)-9,9-didecyl-2-fluorenylamine
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (starting material; preparation and characterization of perylene-based
 luminescent organic glass)
 RN 262607-30-7 HCAPLUS
 CN 9H-Fluoren-2-amine, 7-(2-benzothiazolyl)-9,9-didecyl- (9CI) (CA INDEX
 NAME)



RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

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